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86. (Amended) The method of claim 74, wherein said whole molecule parameter is molecular weight and at least one additional parameter is selected from the group consisting of isotropic surface area, electronic charge index, and hydrophobicity.

REMARKS

Support for the amendments to the claims is shown in the following table:

LIMITATION	SPECIFICATION SUPPORT
"space-filling design"	Page 19, lines 24 and throughout the specification.
"sharing common global characteristics"	Page 45, lines 7-8.
"sequence-specific parameters"	Page 11, line 7, line 12 and page 28, line 11.

Accordingly, no prohibited new matter has been added and entry of the amendment of the claims is requested respectfully.

I. Summary of the Office Action

The Examiner has acknowledged the Response filed 19 October 2001 to the Notice of Non-Responsive Amendment.

The outstanding rejections of claims 74-95 have been withdrawn.

Claims 79 and 93 stand objected to as they depend from claims which stand rejected.

Claims 74, 76-78, 80-86 and 91 stand rejected under 35 U.S.C. §112, second paragraph, for allegedly failing to point out and distinctly claim the invention.

Claims 74, 81, 87-90 and 94 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Tenson *et al.* (1997).

Claims 74, 92, 94 and 95 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Ostrem *et al.* (1998).

II. Summary of the Response

Claims 74, 76 and 81-86 have been amended to more clearly describe the present invention. The Applicants traverse the outstanding rejections against pending claims 74, 76-95.

III. Rejections Under 35 U.S.C. §112, Second Paragraph

Claims 74, 76-78, 80-86 and 91 stand rejected under 35 U.S.C. §112, second paragraph, for allegedly failing to point out and distinctly claim the invention.

Applicants respectfully traverse the rejection as it stands against pending claims 74, 76-78, 80-86 and 91 and claims dependent thereon.

Respectfully, at the outset, it is not clear to Applicants why, if all rejections were withdrawn, some of the same rejections once again are raised under the instant 35 U.S.C. §112, second paragraph rejection. It seems apparent that if the reasoning of the previous Response was sufficient to remove the outstanding rejections, unless the amendments raised new concerns, the previous issues should have been well settled. As such, for the record, Applicants respectfully submit that the withdrawal and re-rejection on the same issues as has been imposed on the present application represents piecemeal examination. See M.P.E.P. §707.07(g).

For claims 74, 76, 80, 83, 84 and 86, the Office Action stated that the term “‘whole molecule parameter’ is not defined in the specification in such a way that one of skill in the art would be able to determine the metes and bounds of the claimed invention.”

As stated in the previous response, Applicants point to page 28, lines 2-4 where “‘whole molecule parameter’ is defined; and “parameter” is differentiated at page 28, lines 11-26 (the latter embracing both whole molecule and sequence-specific parameters). Further, sequence-specific parameter is delimited at page 11, lines 12-14.

Nonetheless, while not acquiescing to the reasoning offered by the Examiner, and to expedite prosecution, Applicants have amended the claims.

As one of skill in the art would understand from the definition and examples in the specification that “parameter” (to include whole molecule and sequence-specific parameters) is linked to physicochemical properties, the term is not indefinite and one of skill in the art would recognize the metes and bounds thereof.

For claims 74 and 82, the Office Action asserted that the specification “does not provide a definition of either ‘space-filling design’ or ‘space-filling technique.’”

Applicants would point to page 19, lines 17-19, where “space-filling design” is expressly defined. Further, examples of such designs or “techniques” (page 19, line 19) are expressly enumerated at page 19, line 19 to page 24, line 11. In addition, from the specification, it is apparent that the terms [design, technique] may be used interchangeably.

Thus, the blanket assertion in the Office Action that “space-filling design” (or technique) is not defined in the specification is inaccurate.

Moreover, as one of skill in the art would understand “space-filling design” (or technique) from the definition and examples in the specification, the term is not indefinite and one of skill in the art would recognize the metes and bounds thereof.

Nonetheless, while not acquiescing to the reasoning offered in the Action, and to expedite prosecution, Applicants have amended claims 74 and 82 to recite “design.”

For claims 74 and 77, the Office Action also asserted that “‘test requirement’ does not appear to be linked to chemical, biological, or physiological functions . . .”.

The term “test requirement” is clearly outlined at page 7, lines 10-23 and further at page 26, line 27 to page 27, line 10.

Thus, as one of skill in the art would understand “test requirement” as set forth in the specification, the term is not indefinite and one of skill in the art would recognize the metes and bounds thereof.

For claims 74, 76 and 80, the Office Action asserted that the phrase “determining a relationship” renders the claims indefinite.

The term “determining a relationship” is not *per se* indefinite as intimated by the Examiner. A brief keyword search for U.S. patents limited to claims (all years) would show that 500 issued U.S. patents recite the phrase “determining a relationship” in the claims. Thus, “determining a relationship” is a well-recognized term of art. The phrase is well known in the art and an artisan would well recognize the metes and bounds of the phrase and a claim containing the phrase.

For claim 74, the Office Action asserted that the metes and bounds of the second peptide library are not clear in view of the term “expected.”

“Expected” in the context of the second peptide library is relationship dependent, such that selection and/or identification of compounds (i.e., practice of the instant invention steps) from said library excludes/includes those peptides which do or do not have the properties of interest (e.g., induction of protein expression, be it qualitative or quantitative). As such, exclusion and inclusion criterion for selection/identification would be within the purview of the end-user.

For example, the relationship may be between molecular weight/pI/sequence length and protein production/expression. Once a relationship is established and test requirement met, the molecules identified by the process as practiced in the instant method are predicted to have the property of interest.

Thus, as one of skill in the art would understand “expected” in view of the process limitations of the claim, the term is not indefinite and one of skill in the art would recognize the metes and bounds thereof.

For claims 74, 76-78, 80, 91, the Office Action asserted that “the term ‘indicia’ does not provide one of ordinary skill in the art a means of determining the metes and bounds of the presently claimed invention.”

As stated in the previous Response, by “indicia” Applicants are using the plain definition, *i.e.*, something that serves to indicate; a sign (*The American Heritage College Dictionary*, 3rd ed., (1997), Houghton Mifflin Company, Boston, MA.). In the context of this art, “indicia” is a recognized term of art as can be seen in the previously cited (now withdrawn) reference, Cho *et al.*, *J Chem Inf Comput Sci* (1998) 38, 259-268, abstract and at page 260, column 2, paragraph 2.

Thus, the term is well known in the art and an artisan would well recognize the metes and bounds of the term and a claim containing the term.

For claim 76, the Office Action asserts that the distinction between “parameter” and “whole molecule parameter” is unclear.

Applicants respectfully submit that this is the identical rejection that has been withdrawn in the instant Office Action. For the reasons stated above, Applicants again submit, for the record, that such is an example of piecemeal examination. See M.P.E.P. §707.07(g).

As stated in the previous response, Applicants point to page 28, lines 2-4 where “whole molecule parameter” is defined; and “parameter” is differentiated at page 28, lines 11-26 (the latter embracing both whole molecule and sequence-specific parameters). Further, sequence-specific parameter is delimited at page 11, lines 12-14.

Nonetheless, while not acquiescing to the reasoning offered by the Examiner, and to expedite prosecution, Applicants have amended the claim.

For claims 77 and 78, the Office Action asserted that the range of indicia is not clear, implying that it is not clear as to how such indicia are qualified.

Applicants would point to page 26, line 32 to page 27, line 10 of the specification, wherein such ranges are outlined/exemplified, including determination of quantitative and qualitative measures.

For claims 81 and 82, the Office Action asserted that the term “isomers” having the meaning of “sharing common global characteristic” is repugnant to the usual meaning of the term “isomers.”

Examination of the specification at page 46, lines 15-17, recites compound isomers as “those compounds sharing the same chemical formula.” Further, at page 45, lines 7-12, the specification again exemplifies the idea that compound isomers have the same chemical formula or amino acid composition.

The plain definition of isomer is where two or more molecules have the same chemical formula with *different stereochemical arrangements of atoms* (<http://cancerweb.ncl.ac.uk/omd/>). Applicants take no different position with respect to the stereochemical inclusive definition. However, a definition which asserts that isomers are required to possess different properties (as offered by the Office Action) is incorrect. As such, the meaning of the term “isomers” as used by the Applicants is not repugnant to the usual meaning.

Further, the term “global characteristics” for chemical compounds is an art recognized term (see, e.g., U.S. Pat. No. 6,184,329, column 39, Table 3, heading).

Nevertheless, with respect to claim 81, while not acquiescing to the reasoning offered in the Action, and to expedite prosecution, Applicants have amended the claim to recite “sharing common global characteristics.” However, Applicants respectfully traverse the characterization of “compound isomers” as repugnant for the reasons given above.

With respect to claim 85, while not acquiescing to the reasoning offered by the Examiner, and to expedite prosecution, Applicants have amended the claim.

For the reasons stated above, the claims are clear and distinct, and Applicants respectfully request that the rejection as it stands against claims 74, 76-78, 80-86 and 91 be withdrawn.

VI. Rejections Under 35 U.S.C. §102(b)

A) Claims 74, 81, 87-90 and 94 stand rejected under 35 U.S.C §102(b) as allegedly being anticipated by Tenson *et al* (1997).

The rejection is traversed for the following reasons.

As stated in the previous response, because in the earlier Office Action, claim 75 (now canceled) which contained the “space-filling” element had not been rejected, inclusion of that element in claim 74 rendered amended claim 74 patentable over the cited reference. As claim 74 had been so amended, the rejection was withdrawn for that reason.

As stated in the response to the §112, second paragraph rejection, “space-filling design” is expressly defined in the specification. Further, from the enumerated list of examples, relationships between a dependent variable and one or more independent variables are exploited. No such relationships between a dependent variable and one or more independent variables are exploited in the cited reference. Therefore, no space-filling design is taught or suggested in said reference.

Further, the cited reference does not function in accordance, or include, the claimed space-filling design limitation (*See Atlas Powder Co. v IRECO Inc.*, 51 USPQ2d 1943, 1946), as said design is not inherent to the practice of said reference. Moreover, such a design is not necessarily present in the cited reference, and the skilled artisan would not recognize disclosure of such a design in said reference. (*See Continental Can Co. USA Inc. v. Monsanto Co.*, 20 USPQ2d 1746, 1749).

As stated in *Hybritech Inc. v. Monoclonal Antibody, Inc.* 802 f.2d 1367, 231 USPQ 81(Fed. Cir. 1986), “It is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention.”

Therefore, because the instantly claimed method recites a specific limitation having defined characteristics for which the cited reference is silent, the Tenson *et al.* reference does not anticipate the claimed invention.

For these reasons, Applicants respectfully request that the rejection, as it stands against claims 74, 81, 87-90 and 94, be withdrawn.

B) Claims 74, 92, 94 and 95 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Ostrem *et al* (1998).

The rejection is traversed for the following reasons.

As stated in the previous response, because in the earlier Office Action, claim 75 (now canceled) which contained the “space-filling” element had not been rejected, inclusion of that element in claim 74 rendered amended claim 74 patentable over the cited reference. As claim 74 had been so amended, the rejection was withdrawn for that reason.

As stated in the response to the §112, second paragraph rejection, “space-filling design” is expressly defined in the specification. Further, from the enumerated list of examples, relationships between a dependent variable and one or more independent variables are exploited. No such relationships between a dependent variable and one or more independent variables are exploited in the cited reference. Therefore, no space-filling design is taught or suggested in said reference.

Further, the cited reference does not function in accordance, or include, the claimed space-filling design limitation (*See Atlas Powder Co. v IRECO Inc.*, 51 USPQ2d 1943, 1946), as said design is not inherent to the practice of said reference. Moreover, such a design is not necessarily present in the cited reference, and the skilled artisan would not recognize disclosure of such a design in said reference. (*See Continental Can Co. USA Inc. v. Monsanto Co.*, 20 USPQ2d 1746, 1749).

As stated in *Hybritech Inc. v. Monoclonal Antibody, Inc.* 802 f.2d 1367, 231 USPQ 81(Fed. Cir. 1986), “It is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention.”

Therefore, because the instantly claimed method recites a specific limitation having defined characteristics for which the cited reference is silent, the Ostrem *et al.* reference does not anticipate the claimed invention.

For these reasons, Applicants respectfully request that the rejection, as it stands against claims 74, 92, 94 and 95, be withdrawn.

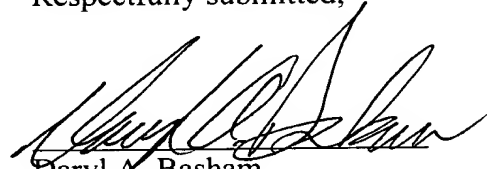
CONCLUSION

Applicants have taken substantial steps to advance prosecution.

Reexamination, reconsideration, withdrawal of the rejections and early indication of allowance are requested respectfully. If any questions remain, the Examiner is urged respectfully to contact the undersigned at the local exchange provided below.

The Commissioner hereby is authorized to charge payment of any fees under 37 C.F.R. § 1.17 that may become due in connection with the instant application or credit any overpayment to Deposit Account No. 18-2220.

Respectfully submitted,



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Dated: 15 May 2002

MARKED-UP VERSION
OF
CLAIM FOR 09/359,260

74. (Twice Amended) A method of identifying a peptide with a predicted indicia of an activity that satisfies a test requirement, comprising the steps of:

determining a first indicia of an activity of a plurality of first test peptides from a first test peptide library;₁[,] [wherein the plurality of first peptides is]

selecting_[ed] said first peptides using a space-filling [technique] design;

determining a relationship between the first indicia of the activity and at least [one] two [whole molecule] parameters of the plurality of first test peptides, wherein one parameter is a whole molecule parameter and an additional parameter is a sequence-specific parameter, and further wherein the length of said test peptides comprises no greater than twenty amino acids;

determining a test requirement relating to the measured first indicia; and

identifying at least one peptide from a second peptide library containing a plurality of second peptides which based on said relationship, are expected to provide an indicia of activity that satisfies said test requirement.

76. (Amended) The method of claim 74, wherein said step of determining a relationship comprises the step of determining $\hat{y}_i = f(x_{ij})$, where x_{ij} denotes a whole molecule parameter, i ranges from 1 to n where n represents the number of first test peptides in the plurality thereof, j ranges from 1 to d where d represents the number of whole molecule parameters, and \hat{y}_i represents an estimate of the measured first indicia of the activity of the plurality of first test peptides.

81. (Twice Amended) The method of claim 74, wherein said determining first indicia [measuring] step is preceded by the step of defining a first test peptide library by representing each of a plurality of groups of peptides as [isomers] peptides sharing common global characteristics from a first peptide space as a respective candidate peptide.

82. (Twice Amended) The method of claim 81, further comprising the step of expanding less than all of the candidate peptides determined in said representing step into their constituent compound isomers using a space-filling [techniques] design.

83. (Amended) The method of claim 74, wherein said [the at least one parameter is a] whole molecule parameter is selected from the group consisting of total charge, molecular weight, isoelectric point[,], and total dipole moment[,], isotropic surface area, electronic charge index, and hydrophobicity].

84. (Amended) The method of claim 74, wherein said [at least two parameters are] whole molecule parameter is selected from the group consisting of total charge, molecular weight, isoelectric point, and total dipole moment, and further wherein said sequence specific parameter is selected from the group consisting of isotropic surface area, electronic charge index, and hydrophobicity [.,].

85. (Amended) The method of claim 74, wherein said [at least one parameter is a] sequence-specific parameter selected from the group consisting of [comprise hydrophobicity, molecular weight, total dipole moment, and total charge] isotropic surface area, electronic charge index, and hydrophobicity.

86. (Amended) The method of claim 74, wherein said [the at least one] whole molecule parameter is molecular weight and at least one additional parameter is selected from the group consisting of isotropic surface area, electronic charge index, and hydrophobicity.